AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-54. (cancelled)

55. (currently amended) A genetically modified mouse ~~having its~~ comprising one or more genomic Serca ATPase gene modified by inserted recombination sites, said recombination sites being of heterogeneous origin, and said modification being homozygous.

56. (currently amended) The mouse of claim 55 comprising several copies of the modified Serca ATPase gene, each modified Serca ATPase gene being a different genomic Serca ATPase gene.

57. (previously presented) The mouse of claim 55, wherein the Serca ATPase gene is a Serca2 ATPase gene.

58. (canceled)

59. (previously presented) The mouse of claim 55, wherein the heterogenous recombination sites are of non-mammalian origin.

60. (previously presented) The mouse of claim 55, wherein the recombination sites comprise loxP recombination sites.

61. (previously presented) The mouse of claim 55, further comprising a gene encoding a heterogenous recombinase.

62. (previously presented) The mouse of claim 61, wherein the heterogenous recombinase is of non-mammalian origin.

63. (previously presented) The mouse of claim 61, wherein the recombinase is a Cre recombinase.

64. (previously presented) The mouse of claim 61, wherein expression of the recombinase encoding gene is controlled by a regulatory nucleic acid sequence.

65. (previously presented) The mouse of claim 64, wherein the regulatory nucleic acid sequence is inducible.

66. (previously presented) The mouse of claim 64, wherein said regulatory nucleic acid sequence is inducible by tamoxifen.

67. (previously presented) The mouse of claim 61, wherein expression of the recombinase gene is tissue-specific.

68. (previously presented) The mouse of claim 67, wherein expression of the recombinase gene occurs in heart tissue.

69. (canceled)

70. (withdrawn) An eukaryotic cell, having its genomic Serca ATPase gene modified by inserted recombination sites of heterogeneous origin, said modification being homozygous.

71. (withdrawn) The cell of claim 70, comprising several copies of the modified Serca ATPase gene.

72. (withdrawn) The cell of claim 70, wherein the Serca ATPase gene is a Serca2 ATPase gene.

73. (canceled)

74. (withdrawn) The cell of claim 70, wherein the heterogenous recombination sites are of non-mammalian origin.

75. (withdrawn) The cell of claim 70, wherein the recombination sites comprise loxP recombination sites.

76. (withdrawn) The cell of claim 70, further comprising a gene encoding a heterogenous recombinase.

77. (withdrawn) The cell of claim 76, wherein the heterogenous recombinase is of non-mammalian origin.

78. (withdrawn) The cell of claim 76, wherein the recombinase is a Cre recombinase.

79. (withdrawn) The cell of claim 76, wherein expression of the recombinase encoding gene is controlled by a regulatory nucleic acid sequence.

80. (withdrawn) The cell of claim 79, wherein the regulatory nucleic acid sequence is inducible.

81. (withdrawn) The cell of claim 70, wherein the cell is of mammalian origin.

82. (withdrawn) The cell of claim 70, wherein the cell is of non-human mammalian origin.

83. (withdrawn) The cell of claim 70, wherein the cell is of rodent origin.

84. (withdrawn) The cell of claim 70, wherein the cell is of mouse origin.

85. (withdrawn) The cell of claim 70, wherein said cell is an embryonic cell.

86. (withdrawn) The cell of claim 70, wherein said cell is a cardiomyocyte.

87. (withdrawn) A gene encoding a Serca ATPase modified by inserted recombination sites, wherein said recombination sites are heterogenous to said gene.

88. (withdrawn) The gene of claim 87, wherein the Serca ATPase is a Serca2 ATPase.

89. (canceled)

90. (withdrawn) The gene of claim 87, wherein the heterogenous recombination sites are of non-mammalian origin.

91. (withdrawn) The gene of claim 87, wherein the recombination sites comprise loxP recombination sites.

92. (withdrawn) The gene of claim 87, wherein said gene is modified as set forth in at least one of SEQ ID NO: 1-3.

93. (withdrawn) A vector comprising the gene of claim 87.

94. (withdrawn) The vector of claim 93, wherein the vector is based on pBluescript II KS.

95 - 101. (canceled)

102. (withdrawn) A method for screening a compound or a mixture of compounds for activity against defective Ca^{2+} handling, comprising the following steps:

- inducing expression of the recombinase, and with that inactivation of the Serca ATPase gene, in the mouse according to claim 55;

- administering the compound or a mixture of compounds to said mouse before and/or after the induced inactivation of the SercaATPase gene; and

- detecting whether the induced defective CA^{2+} handling is normalized by the administration of said compound or mixture of compounds.

103. (withdrawn) The method of claim 102 wherein the Serca ATPase gene is a Serca2 ATPase gene.

104. (withdrawn) The method of claim 102, wherein expression of the recombinase gene occurs in heart tissue.

105 - 108. (cancelled)

109. (withdrawn) The method of claim 102, wherein said method is suitable for screening a compound or a mixture of compounds for activity against heart failure.

110. (new) The mouse of claim 55, comprising:

a genomic Serca2 gene modified by two loxP recombination sites, the two loxP recombination sites flanking at least one exon of the Serca2 gene, said modification being homozygous; and

a recombinase gene under transcriptional control of a alpha-myosing heavy chain (α-MHC) promoter.

111. (new) The mouse of claim 110, wherein each genomic copy of the Serca2 gene has been disrupted to a null mutation.

112. (new) The mouse of claim 111, wherein the mouse is an adult mouse.

113. (new) The mouse of claim 110, wherein the recombinase gene is MerCreMer.

114. (new) The mouse of claim 110, wherein the recombinase gene is expressed in the mouse heart tissue.

115. (new) The mouse of claim 110, wherein expression of the recombinase gene is controlled by tamoxifen administration to the mouse.

116. (new) The mouse of claim 110, wherein the two loxP recombination sites flank exon 2 and exon 3 of the Serca 2 gene.